



## CHAPTER 10

### FUNCTIONAL ANALYSIS OF URBAN ECONOMICS: A SYNTHESIS

#### 10.1 INTRODUCTION

The aim of this chapter is to analyse the most important aspects of Chapters 4 to 9 to view the problems faced by most urban economies. Thus far, it has been seen that various social and economic factors influence the urban environment and the business core. Problems and externalities arising from a concentration of people consuming, and firms producing, in an urban area, should thus be addressed. Although the emphasis will not only be on addressing problems in the inner city, it is essential to address this issue first and foremost in order to eliminate the possibility of a negative spillover effect on the suburban area. These geographical concentrations of production and consumption activities are a complex structure. The economic benefits of agglomeration economies are somewhat overshadowed by several negative externalities and their associated costs. The vitality of an urban economy depends to a great extent upon the balance between the benefits of spatial concentration and the costs associated therewith.

Urban renewal is an important factor in the process of creating a viable urban environment, conducive to attracting new businesses and stimulating increased economic activity. It is, however, important to consider the economic growth theories, analysed in Chapters 2 and 3, and their relevance to the urban environment. These economic growth theories will be matched against and evaluated in terms of the urban environment, analysed in Chapters 4 to 9. The aspects that should be taken into consideration in the formulation of the goals, strategies and policies to address urban decline as well as for the improvement of business activity in the total urban area, will be analysed. These may, however, differ from area to area, depending on the specific needs of the area.



## 10.2 URBAN ECONOMICS: A SYNOPSIS OF RECENT TRENDS

### 10.2.1 Urban decay

Whatever the reason for the existence of cities, economic forces are likely to reinforce the original impetus. However, the same economic factors that stimulate outward growth also create problems such as economic decline, urban decay, pollution, traffic congestion and inadequate housing. These problems arise because the urban area can only adjust slowly to changes in the conditions of supply and demand and as the size of the urban area grows, the external cost of more concentration in this area increases and multiplies (Harvey, 1988: 256). A serious deterioration in the overall economic performance of the central city area in several major cities has been witnessed (Button & Pearce, 1989:141). Every individual city obviously has its own unique features but in broad terms the same problems are experienced across the board. These are (Button & Pearce, 1989:141):

- i) High levels of unemployment;
- ii) high levels of under-employment;
- iii) decline in manufacturing output;
- iv) slow productivity growth;
- v) rising levels of crime and social disorder;
- vi) an out-migration of skilled labour;
- vii) low average income levels;
- viii) a diminution of the local tax base;
- ix) an increased demand for various forms of social services; and
- x) a serious deterioration in the quality of the local physical environment.

One possible explanation for these trends may be the shift in productive technology leading to pressure to increase the land-output ratio. Established firms seeking more space and new firms favouring more open and spacious sites have left inner cities, leaving the old, small businesses in inner cities to decay. Official urban policies aimed at reducing congestion and pollution, had a more relaxed approach to rezoning



residential areas, with the potential of higher property taxes on commercially zoned properties. This probably added to the decline and resulted in an imbalance in many urban economies. Any generalisation about the reasons for the economic performance of urban areas is a difficult task. This chapter is concerned neither with offering a detailed description of the range of urban problems nor with their initial causes. There is, however, mounting evidence that improved urban quality of life may draw back scarce resources of qualified labour, stimulate the relocation of employment and produce a more diverse base of economic activity. It is also very important to realise that an urban environment does not exist in a vacuum but is itself affected by activities outside of the immediate area.

### 10.2.2 Changing urban patterns

Cities have undergone several changes in terms of locational patterns. The central business district (CBD) was the place where people who worked in the businesses lived. As the city expands, however, and especially at an advanced phase of urban growth, new development on the urban fringe may become an increasingly attractive alternative to redeveloping the existing central area (Balchin, *et al.*, 1995: 246). Various factors lead to a significant relocation of businesses and households outside of the traditional CBD area. The businesses and people have spread out across the boundaries of the cities and long-distance commuting is in the order of the day. The expansion has not influenced everyone to the same extent. Businessmen who have to interact on a regular basis with many different people keep their offices in the central city. Low-cost floor space has made it more affordable for small businesses to stay in the central city. Large office complexes that require a large pool of workers cannot move easily. On the other hand, businesses that can take advantage of large land and single level floor space move out eagerly. Families who want more space for their children in open spaced areas also leave for more attractive decentralised residential areas. The movement of these people leads to the movement of retailers and eventually wholesalers to service these people. The traditional CBD, as an economic



and residential whole, is now becoming a relatively specialised segment within a rapidly growing area (Wurtzebach, *et al.*, 1994: 55).

Factors that promote this shift from the CBD to the surrounding suburbs are associated most of all with a decline in the income of central areas and with a tendency for this decline to become cumulative. This trend explains itself through failure to maintain property, a widening gap between neighbourhood tax receipts and expenditures on services, out-migration of high-income residents and urban poverty (Harvey, 1988: 256). Locating in a central urban area causes external diseconomies and where such costs are deemed great, economic activity may become decentralised to the outskirts of the urban area. The widely noted movement to suburbs reflects a desire to avoid diseconomies of urban congestion while retaining the benefits of a large metropolitan area. High population densities create congestion and pollution of air, water, noise, space and other environmental elements. These effects occur as side effects to economic activity. The numerous diseconomies combine to generate psychological and social tension, which add to frustration, crime and expense (Haring, 1972: 38). In the suburbs, communities can protect themselves at least temporarily from the rising density patterns associated with the central city area. Economists dealing with urban problems seek to help meet the needs for orderly land use, open space, city transportation and a cleaner atmosphere.

Urban planners believed that the declining urban population in the CBD would produce several benefits such as (Balchin, *et al.*, 1995: 250):

- i) Easing the housing shortage;
- ii) improving the residential environment;
- iii) fewer commuting problems;
- iv) more urban open space;
- v) less crime and acts of vandalism;
- vi) less need for government subsidy;
- vii) less overcrowding; and



viii) improved educational attainment.

Unfortunately, quite the contrary occurred, which obviously caused economic decline. Due to this, an urban plan of revitalisation is necessary if any chance of economic survival for these areas is to be expected.

### 10.2.3 Need for urban renewal

City authorities and businesses have three options when deciding about the future of their urban environment. They can either decide to follow a *laissez-faire* approach; maintain and upkeep existing structures; or they may opt for an urban renewal plan. Although the cheapest option, the *laissez-faire* approach, will lead to urban decline and decentralisation and eventually total urban decay. The second option of maintaining and upkeeping all existing structures may also be relatively cheap, but will probably not attract new businesses and some existing businesses may even choose to leave for greener pastures in suburban areas.

A deliberate effort at urban renewal and revitalisation driven by city leaders is thus necessary to retain and gain businesses with the purpose of increasing urban economic growth. Although the term urban renewal generally refers to the redevelopment of residences, it may also refer to the development of other problem areas such as industrial redevelopment, upgrading of downtown areas, promotion of university and hospital centres and the creation of the so-called new-towns in town. Urban renewal covers three types of programmes, viz. rehabilitation of sub-standard structures to a prescribed minimum standard; conservation in order to upgrade an area by protecting buildings worth preserving; and redevelopment which refers to the demolition, clearance and reconstruction of buildings that have become obsolete (Button, 1985: 152).

In addition, urban renewal is seen as (Grebler, 1965: 13):

*A deliberate effort to change the urban environment through planned, large-scale adjustment of existing city areas to present and future requirements for urban living and working.*

An aspect that should be kept in mind is the individual structure and the behaviour of the individual property owner. Most buildings can be maintained, provided that the owners are willing to undertake the required maintenance expenditure and that it is economically viable due to active economic activity. It is therefore true to a certain extent that building structures decline in quality because owners permit them to do so. One of the determinants of the market value of a particular property is the quality of the neighbourhood in which it is located (spillover effect). An owner thus obtains the highest return from his/her property if it is undermaintained while others in the area are well maintained. Conversely, a lower return is received if the building is maintained while the rest of the neighbourhood is deteriorating. In this case it will only be beneficial to the property owner to maintain his property if the adjacent properties are also upgraded. If this is not done, further investment will be discouraged and deterioration will spread (Richardson, 1971: 128).

The overall decay in areas containing redundant buildings and where improvement has been neglected, may lead to an even further decline. New investment may also be considered too much of a risk and owners of existing buildings may decide not to keep up essential repair and maintenance work. This may produce a short-term increase in returns but over the longer term buildings may tend to decay even more quickly. Although it could be in the interest of all owners to invest in maintenance, such investments may nevertheless fail to occur. This may be due to the fact that any single investment will probably have little overall impact on property values in general in the area and since they cannot be sure that others will follow, it is likely that no owners will invest (so-called prisoner's dilemma) (Balchin, *et al.*, 1995: 246). In the case of housing, slum formation is the ultimate result. Unrestricted urban growth may cause



urban sprawl and increased congestion with resulting reduced incentives for urban renewal.

A crucial feature of urban renewal is the involvement and participation of local government. A policy for dealing with the problems of urban renewal should be based on four salient features, which are all interrelated (Harvey, 1987: 261):

- i) the general aspects of physical decay;
- ii) the poverty of its inhabitants;
- iii) its economic function of providing relatively affordable housing close to employment opportunities; and
- iv) an outward movement of both households (particular those of the skilled) and firms to more attractive areas.

However, governments have been hesitant to prepare renewal plans and where they have drawn up such plans, these have been constrained by financial criteria. Often, the cheapest renewal plan was accepted and implemented regardless of the potential benefits and level of success. Urban renewal plans should stand or fall on the success of their attempts to stimulate the revival of business activity (Mills, 1972: 188).

The decline of urban areas may be eliminated by large amounts of investment by either public or private sector or both. This may have the following beneficial effects (Balchin, *et al.*, 1995: 251). Firstly, a more efficient allocation of resources will result. Less wastage of land will occur because land will be optimally utilised. Some of the decayed residential land will be converted into commercial and industrial land and vice-versa. Unemployment rates will decline and rising income levels and property values will lead to a spillover effect into the surrounding area. Secondly, considerable social benefits will be derived from such an initiative. A healthier and higher paid labour force will result in higher levels of productivity and less deprivation will almost certainly reduce the cost of providing welfare services. A final, very important aspect is the potential redistributive effect of urban renewal. Higher levels of income and increased economic



activity will widen the tax base and these improved levels of revenue will enable local authorities to provide better services. Renewal tends to reduce the demands on medical, police and fire services which are normally higher in the CBD areas than in the surrounding urban areas (Button, 1985: 153). An urban renewal project often serves multiple goals, such as profitability on private or social account, benefits to city tax revenues, the demonstration effect of setting new urban standards in design and long-term income gain for the city population.

These benefits, however, will only be realised with considerable costs incurred. Urban renewal projects are costly and may take several years so that the costs and benefits at the end of the project may differ substantially from those estimated at the outset. The financial costs include, *inter alia*, research; survey and planning costs; administrative expenditure; the cost of acquiring decayed property; demolition costs; the cost of public and private developments and relocation costs. Urban renewal may also decrease land values in some parts of the metropolitan area by transferring activities to the renewal site. In addition to the financial costs, there are social costs to consider. If people are forced to move it may break up existing community ties and the removal of people means the loss of the option of living in poor quality but affordable accommodation which some people may actually prefer (Mills, 1972: 188). By identifying and quantifying the benefits and costs of renewal investment carefully, cost-benefit analyses should be undertaken and renewal projects ranked in order of the greatest net benefit as a guide to decision-making.

The importance of the economic growth theories, explained in Chapters 2 and 3, will now be evaluated in terms of the specific urban features analysed in Chapters 4 to 9, to address urban renewal and the stimulation of business activity within urban areas. This is to determine the relevance of these growth theories in an urban environment in order to generate economic growth and development and enhance quality of life.





### 10.3 ECONOMIC GROWTH THEORIES

The Harrod-Domar theory states that the level of savings and investment are crucial for economic growth and development. This is especially true for any developing economy, although not necessarily untrue for a developed economy. As it was assumed that urban areas within developing economies might differ in degree of development, the level of savings and investment is thus an important feature for urban growth and development. In the case of urban renewal, increased levels of savings and investment are vitally important. This can be seen as the first stage of urban renewal and will serve as a catalyst for further urban improvements and renewed business activity. To attract new businesses and highly-skilled people, amenities should be improved and increased levels of available savings could support high levels of investment.

Developing and renewing an urban environment will also need other forms of intervention. Solow accentuates the presence of three factors, *viz.* capital, labour and knowledge or efficiency of labour, in order to generate economic growth and development. Knowledge is seen as exogenous and any increase in economic growth that cannot be associated with the stock of capital and labour is attributed to the so-called Solow residual. Although Solow could thus not explain the factor generating a major portion of growth, he laid the foundation, emphasising the importance of knowledge as a contributing factor to economic growth. Although the importance of capital and labour in generating growth and development in a developing country are not negated, the knowledge factor is crucial for economic growth and development due to its endogenous nature. Solow paved the way for Romer's endogenous growth theory.

Romer developed his endogenous growth model by introducing four variables, *viz.* labour, capital, technology and output. The two sectors used in his model explain a goods-producing sector where output is produced and a R&D sector to enhance the stock of knowledge. The first sector primarily uses labour and capital to produce output but may be subject to diminishing returns in the long run. The second sector



emphasises the importance of enhancing R&D to generate knowledge, which will ensure increasing returns to scale. Both these sectors are necessary for growth and development within developing and developed economies.

It is interesting that the growth theories of Harrod-Domar, Solow and Romer can all be adapted for economic growth and development needs within an urban environment. It is important to realise that although the level of development may vary between urban areas, the principle of all three theories can be applied to urban areas. Seeing that an urban area is the powerhouse of an economy, savings and investment (Harrod-Domar), capital, labour and knowledge or efficiency of labour (Solow) or labour, capital, technology and output (Romer) are best generated within urban areas. Some variables will be more important for developing economies than for developed economies, but none of these variables can be fully ignored, irrespective of the level of development. The existence of agglomeration economies is fundamental to the economic explanation of urban economic growth.

Agglomeration economies refer to the advantages of spatial concentration because economic activities are located in one place, such as the urban environment. A distinction within agglomeration economies is between localisation (when firms benefit from being close to other related firms) and urbanisation (when firms benefit from being located in a large city, even though the firms may be unrelated). Both types can be static or dynamic. Referring back to equation 4.1 [ $Q = A(z,t)F(K,L)$ ] in Chapter 4,  $z$  is a collection of factors that create agglomeration economies,  $t$  the level of technology and  $F(K,L)$  the function of capital and labour. Static agglomeration economies imply that a larger urban area may have a better and cheaper form of air transport (the  $z$  factor), which will create a once-off increase in  $A(z,t)$  and thus a once-off decrease in the cost of a particular industry. Dynamic agglomeration economies imply that the level of the agglomerative factor is associated with a continuous increase in the output of a particular industry. More inventive innovators will be available in a large urban area that will create this continuous flow of technological change which exceeds that of smaller areas. The size of the urban area (the  $z$  factor) causes technology (the  $t$  factor) to

increase continuously with a positive effect on economic growth. This technological change means that a firm applying new technology can produce more output with a given amount of capital and labour. Technological progress is therefore seen as internal to this particular firm. At the centre of dynamic agglomeration economies is the production and use of knowledge. From a static point of view, agglomeration economies can stem from labour specialisation, for example. In a dynamic sense, however, continued reductions in costs is necessary and the rate of innovation will increase if more highly-trained people engage in R&D, causing a greater rate of new product development, improvement of existing products and improvement of production methods. This will be generated in urban areas more so than in non-urban areas. Knowledge spillovers are more likely to occur if innovators are in close proximity, and a diversity of industries may be more stimulating to the generation of new ideas than the size of an individual industry.

Local urban authorities should use these theories and variables as a basis for creating an urban environment conducive to economic growth and development and thus to enhancing quality of life. To create such an environment, authorities need to develop and implement effective and efficient urban goals, strategies and policies. Although the development of these urban goals, strategies and policies is important, a framework in which these can be developed and implemented is still needed. The Economic System Approach (ESA) is used as a framework because of its complementary vision in terms of a people-centred and endogenous approach. The local authorities consist of people, and the ESA provides an institutional and organisational framework within which these people's capabilities can be enhanced to empower them for this most important job. Chapter 11 will again refer to the ESA and its contribution to creating such an environment and enabling the economic agents.

#### **10.4 SUMMARY**

The same economic factors that stimulate increased growth in urban areas also create problems such as economic decline, urban decay, pollution, traffic congestion, crime and inadequate housing. Cities have undergone several changes and the CBD has

changed as a place of work and residence to a place where urban decay increasingly occurs. As cities expand, new development on the urban fringe becomes an increasingly attractive alternative to redeveloping the existing central area. The extensive movement to suburbs reflects a desire to avoid diseconomies of high population densities that create congestion and pollution of air, water, noise, space and other environmental elements. A deliberate effort at urban renewal and revitalisation driven by city leaders is thus necessary to gain and retain businesses with the goal of increased urban economic growth.

The revitalisation and renewal of an urban area is important and the economic growth theories, which are complementary to the notion of agglomeration economies, may be introduced to address these issues. Although all variables explained by Harrod-Domar, Solow and Romer contribute to urban economic growth and development, knowledge is the single, most important, all-embracing factor for the stimulation of increasing economic returns. This endogenous factor should deliberately be stimulated within urban areas due to its potential continuous impact on urban economic growth and development.

Local authorities should therefore engage in a planning exercise to develop and implement urban goals, strategies and policies to address urban problems. The purpose of the next chapter is to give guidance towards the development of such goals, strategies and policies.